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Water Supply Outlook for th Wester United



Water Supply Outlook

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Some Basic Data and Streamflow Forecasts prepared by cooperating agencies are presented in this bulletin. These agencies include the Bureau of Reclamation, Corps of Engineers, Forest Service, National Park Service, Geological Survey, British Columbia Ministry of the Environment, and the California Department of Water Resources. Copies of this publication may be obtained on request from National Weather Service, National Oceanic and Atmospher, Administration, Silver Spring, Maryland 20910, Attentio Office of Hydrology, and the Soil Conservation Service, We Technical Service Center, Room 510, 511 N.W. Broadwa Portland, Oregon 97209.

Water Supply Outlook reports prepared by other agencie include a report for California by the Snow Surveys Branc California Department of Water Resources, P.O. Box 38 Sacramento, California 95802 — for British Columbia by the Ministry of the Environment, Water Investigations Branci Parliament Buildings, Victoria, British Columbia V8V 1X5 — for Yukon Territory by the Department of Indian and Norther Affairs, Northern Operations Branch, 200 Range Road, White horse, Yukon Territory Y1A 3V1 — and for Alberta, Saskatch wan, and N.W.T. by the Water Survey of Canada, Inland Water Branch, 110-12 Avenue S.W., Calgary, Alberta T3C 1A6.

To Recipients of Water Supply Outlook Reports

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulate during the winter and spring, several months before the snow melts and appears as streamflow. Sinc the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well i advance of its occurrence. Fall precipitation influences the soil moisture conditions prior to formatio of snowpack and explains, in part, the effectiveness of the snowpack in producing runoff. The forecast of natural runoff in this outlook are based principally on measurements of precipitation, snow wate equivalent, and antecedent runoff. Forecasts become more accurate as more of the data affectin runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are threfore subject to a greater change than those made on later dates. The report for Wester United States presents a broad picture of water supply outlook conditions, including selected stream flow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Probability Forecasts

Precipitation and snowfall accumulation of known probability as determined by analysis of past record are utilized in the preparation of probability runoff forecasts. The forecasts include an evaluation of the standard error of the prediction model. The forecasts are presented at three levels of probability a follows:

- 1. Most Probable That runoff which is expected to occur if precipitation subsequent to the date o forecast is median.
- 2. Reasonable Maximum —That runoff which is expected to occur if precipitation subsequent to the date of forecast is equal to the amount which is exceeded on the average once in ten years.
- 3. Reasonable Minimum That runoff which is expected to occur if precipitation subsequent to the dates of forecast is equal to the amount which is exceeded on the average nine out of ten years.

RUNOFF FORECASTS AT ALL POINTS ARE FOR FULL NATURAL OR UNIMPAIRED RUNOFF CORRECTED FOR EVAPORATION, UPSTREAM DIVERSIONS, AND ADJUSTED FOR OTHER HYDROLOGIC CHANGES AS THEY ARE DEVELOPED. REFERENCE SHOULD BE MADE TO THE U.S. GEOLOGICAL SURVEY WATER SUPPLY PAPERS FOR DETAILED INFORMATION CONCERNING DIVERSIONS AND ADJUSTMENTS AT THE VARIOUS FORECAST POINTS.

1985 Snowmelt Season as of May 1

WARM AND DRY APRIL WEATHER OVER MUCH OF THE WEST STARTED HEAVY SNOWMELT WHICH SEVERLY DEPLETED SNOWPACKS, CAUSED HIGH STREAMFLOWS, AND LED TO DOWNWARD REVISIONS IN THE SEASONAL FORECASTS. STREAMS IN SOUTHERN COLORADO AND NEW MEXICO WILL PRODUCE MUCH ABOVE NORMAL RUNOFF VOLUMES THIS SEASON.

General Outlook

April weather conditions contributed to further decrease streamflow forecasts over a large portion of the West. Expected volumes are below to much below normal for the Missouri, Great, and California Basins. Also, portions of the Snake and Upper Columbia Basins will receive below normal runoff amounts. Conditions in the Colorado, Arkansas, and Rio Grande Basins were not so bleak, however. Wet April conditions will keep most of these basins above average, especially so in the San Juan and Rio Grande drainages.

A very warm and dry April weather pattern dominated much of the Western U.S. California stations only reported 15 percent of normal precipitation state-wide, with the Missouri, the Great, and much of the Columbia Basins showing similar results. On the other hand, the Colorado, Arkansas, and Rio Grande Basins received above normal precipitation during April. The Rio Grande Basin experienced the wettest April in 40 years.

As previously mentioned, a very warm April has greatly depleted the snowpack throughout the West. The very rapid depletion of the snow caused high runoff in most western streams and rivers during April, with many peaks probably occurring during the month. The only area with a much above normal snowpack is in the high elevation portions of southern Colorado and northern New Mexico, where rapid melting is just getting underway.

The Rio Grande River is going bananas this year and is now expected to produce 195 percent of average seasonal runoff. This is in stark contrast with other major rivers in the West, where forecasts are either staying the same or decreasing. Percent yields from other major rivers are as follows: Snake-98, Missouri-82, Columbia-96, Colorado-145, Arkansas-98, Green-88, North Platte-68, and South Platte-100.

Reservoir storage is good to excellent throughout the West. The way things look in many states, the water users are going to have to rely heavily on this abundance of stored water.

Basin by Basin Summary

SAN JOAQUIN, SACRAMENTO AND NORTH COASTAL BASINS

Following a cool and damp March in much of California, April weather patterns reverted to the dry conditions which have prevailed most of the winter. Statewide precipitation averaged about 15 percent of normal. Only a few sites in the state reported more than an inch of precipitation. Mt. Shasta City and Red Bluff reported their second driest April on record. Several locations in the Southern Sierra and Southern California recorded no rain during the month.

April had very warm temperatures throughout the state, with every reporting station in California recording above normal temperatures for the month. Average temperature anomalies of 3 to 5 degrees were most common for the month. Record April average temperatures were established at Blue Canyon with 53.4 degrees (10.1 degrees above normal) and at Mt. Shasta City with 51.7 degrees (6.1 degrees above normal). The Blue Canyon April average temperature was higher than the normal May average of 51.5 degrees.

As a result of the warm weather, the runoff from the snowpack began earlier than usual giving higher than normal streamflows for the month. However, expected water year streamflow volumes have continued to decrease and are expected to average 63 percent of normal.

COLUMBIA BASIN

The water supply outlook for the Columbia River and Pacific coastal basins calls for near normal runoff volumes this season. The conditions of April boosted forecast volumes in the Canadian portion of the basin and lowered forecast volumes in the Snake River Basin. The forecast for the Columbia River at The Dalles remained

COLUMBIA BASIN -- Continued

Most basin reservoirs will fill, but with continued dry weather and high irrigation demand, it may be difficult to fill the Yakima and Boise reservoir systems.

GREAT BASIN

Below normal April precipitation in the Great Basin combined with very high flows during April, resulted in lower runoff volumes for the May-July period. The dry warm April weather lowered the threat of flooding and minimized the danger of slides.

April precipitation throughout the basin was generally 20-45 percent of normal but increased to 120-170 percent of normal in southern and eastern Utah.

Seasonal precipitation since October 1 is below normal, 50-80 percent, over portions of north-central Utah but increases substantially to more than 150 percent over the southeast portion of the state.

The May 1 snow measurements reflect the unusually warm weather in April which resulted in a significant decline in the mountain snowpack. Most basin averages declined 10--40 percent from the April 1 readings.

Observed streamflow throughout the Great Basin was much above normal. Most streams had 2-3 times normal flows reflecting the early snowmelt. Many of these streams have already peaked for this season. Since October 1 runoff over most of the Great Basin has been 160-200 percent of normal.

The elevation of the Great Salt Lake on May 1 was 4209.90 feet, an increase of 0.35 feet during April. The Great Salt Lake is 1.80 feet higher than last years May 1 reading and is at its highest level since 1877. The lake should continue to rise slowly, peaking within the next few weeks at a level near or below 4210.20 feet. The peak last year was 4209.25 feet.

Utah Lake on may 1st was 3.28 feet above compromise, a rise of 0.34 feet during April. Utah Lake is very near its peak elevation, within several inches, and should start receding within the next several weeks.

Reservoir storage throughout Utah remains well above average. April month-end contents of 24 reservoirs was about 340,000 acre-feet more than last year at this time.

The flood potential continues to diminish with dry warm weather helping to decrease the snowpack and drying the soils. Many low elevation streams throughout the state have already peaked. High flows from snowmelt runoff are still likely but streams are expected to remain within stream channels. The potential for land slides and earth failures has greatly diminished.

COLORADO BASIN

The water supply outlook for the Upper Colorado Basin is above normal. Forecast flows increased 5 to 15 percent over those issued April 1. Runoff volumes are forecast at 130-170 percent of normal for the May-July period on the San Juan, Dolores, and Gunnison watersheds as well as the Colorado mainstem from Cameo to Lake Powell. The Green River Basin and headwaters of the Colorado changed only slightly.

April precipitation ranged from less than 50 percent of normal on the Upper Green River in Wyoming to about 200 percent of average over much of the Colorado mainstem and San Juan Basin. Some areas along the Continental Divide were near normal. Seasonal precipitation was quite varied over the Upper Colorado Basin. Portions of the Upper Green River in Wyoming received less than 50 percent with a vast majority of the Colorado drainage 110 to 140 percent with some stations exceeding 150 percent in the San Juan and Dolores watersheds.

The May 1 mountain snowpack as compared to April 1 declined to about 65 percent of average in the Upper Green, changed only slightly over Colorado mainstem, but increased significantly in the San Juan Basin.

Runoff during April was generally at record proportions; for the month. Warm weather resulted in an early snowmelt regime with many drainages having flows more than 200 percent of normal. The April inflow to Navajo Reservoir was a record amount at 340,000 acre-feet, while the inflow to Lake Powell was 2.55 million acre-feet, second highest on record.

Reservoir storage remains high. The combined storage of ten major reservoirs above Lake Powell is 6.1 million acre-feet, about 330,000 acre-feet more than last year at this time. Storage in the four Salt River reservoirs in Arizona is 1.7 million acre-feet, almost 100 percent of capacity. Current storage in Lake Powell is 22.5 million acre-feet, 300,000 acre-feet more than last year.

Some flooding in low lying and flood prone areas may occur on the San Juan, Dolores, and Gunnison drainages as well as the Colorado mainstem below the confluence with the Gunnison River.

RIO GRANDE BASIN

Above normal precipitation was reported over the entire Rio Grande Basin during the month of April, increasing the total seasonal streamflow forecasts at some forecast points by 10 to 20 percent from April 1 predictions. Forecast totals in the Colorado portion of the basin are 107 to 160 percent of average, and in New Mexico 110 to 215 percent of average.

During the last week of April, significant precipitation was observed at many basin locations pushing monthly totals above 200 percent of normal throughout the basin. Overall, it was one of the wettest Aprils in the last 40 years in New Mexico.

Above normal snowfall was reported during the month of April in the higher elevation areas, particularly the San Juan Mountains of southern Colorado. The basin snowpack in Colorado is now 153 percent of average which is about 20 percent higher than last year at this time. In New Mexico, above normal temperatures around the middle of the month resulted in melting of a large percentage of the snowpack. This produced very good runoff and much above normal streamflows for the month.

Reservoir storage increased at most of the basin lakes during the month, and total storage is well above average. At Elephant Butte and Caballo Reservoirs, water in storage now totals about 1.9 million acre-feet which is the highest amount since the record high of 2.3 million acre-feet in 1942.

ARKANSAS BASIN

The Arkansas River Basin water supply outlook indicates near normal runoff. Predicted streamflow volumes range from 105 to 115 percent of the 20-year (1961-1980) average.

Several moderate storms during April produced above normal precipitation, with the majority of the basin receiving 150 percent of normal. Seasonal totals (October through April) range from near normal in the northern valleys to near twice normal further south and east along the Sangre De Cristo Mountains and the southeastern quarter of Colorado.

May I snowpack increased slightly from a month ago at a few of the higher elevation snow courses. Snowpack at the low and middle elevation snow courses decreased dramatically due to above normal temperatures during the month of April. North and west of Salida in the Sawatch mountains, May I highs were noted at Porphyry Creek and Twin Lakes tunnel with averages of 110 to 120 percent of normal. At lower elevations, the snowpack is virtually non-existent due to above normal temperatures in April.

STREAM AND STATION	FORECAST		20 YEAR (1961-80 AVERAGE RUNOFF			
SINDAM AND SIAMON	PERIOD	MOST PRO (1000AF) (PE	BABLE CENT OF AVG.)	REASONABLE MAX. RE. (PERCENT OF AVG.)(PE	RCENT OF AVG.)	(1000 AF) ·
SACR.	AMENTO AN	ND NORTH CO		SNISA		
TRINITY RIVER CLAIR ENGLE LAKE INFLOW, CA	OCT-SEP	850	ं. -62	70	56	1365
SACRAMENTO RIVER	OCT-SEP	500	59	70	50	844
MC CLOUD RIVER				·		_
SHASTA RESERVOIR ABV, CA PIT_RIVER	OCT-SEP	900	70	77	64	1280
SHASTA RESERVOIR ABV, CA SACRAMENTO RIVER	OCT-SEP	2250	69	73	66	3266
SHASTA RESERVOIR INFLOW, CA RED BLUFF NR, CA NORTH FORK FEATHER RIVER	OCT-SEP OCT-SEP	4000 5300	66 60	70 66	64 55	6078 8808
PRATTVILLE, NR, CA BIG BAR, CA	OCT-SEP OCT-SEP	580 1600	73 62	77 68	70 57	793 2572
FEATHER RIVER OROVILLE RESERVOIR INFLOW, CA	OCT-SEP	2800	61	68	56	4613
NORTH YUBA RIVER GOODYEARS BAR BLO, CA	OCT-SEP	350	62	71	55	564
SOUTH YUBA RIVER LANGS CROSSING, CA	OCT-SEP	250	70	82	61	358
YUBA RIVER SMARTVILLE, CA	OCT-SEP	1500	64	71	59	
MIDDLE FORK AMERICAN RIVER AUBURN NR, CA	OCT-SEP	_				2355
SILVER CREEK	OCT-SEP	680	64	76	56	1066
UNION VALLEY RES INFLOW, CA CAMINO DIV DAM BLO, CA SOUTH FORK AMERICAN RIVER	OCT-SEP OCT-SEP	110 210	65 67	76 79	56 57	170 314
CAMINO NR, CA AMERICAN RIVER	OCT-SEP	500	61	71	54	822
FOLSOM RESERVOIR INFLOW, CA	OCT-SEP	1700	65	72	61	2623
	SAN	JOAQUIN BA	ASIN			
KERN RIVER KERNVILLE NR, CA	OCT-SEP	400	66	79	54	610
ISABELLA DAM BLO, CA BAKERSFIELD NR, CA TULE RIVER	OCT-SEP OCT-SEP	450 480	60 61	69 77	57 53	749 783
SUCCESS RESERVOIR INFLOW, CA KAWEAH RIVER	OCT-SEP	70	48	69	31	147
TERMINUS RESERVOIR INFLOW, CA	OCT-SEP	280	62	72	56	453
NORTH FORK KINGS RIVER CLIFF CAMP NR, CA	OCT-SEP	200	68	80	62	292
KINGS RIVER PINE FLAT DAM INFLOW, CA	OCT-SEP	1150	67	74	63	
SOUTH FORK SAN JOAQUIN RIVER FLORENCE LAKE NR, CA	OCT-SEP	180	68	79	57	
BIG CREEK HUNTINGTON LAKE BLO, CA	OCT-SEP	75	54	68	43	
SAN JOAQUIN RIVER		1000	72	77	69	
MERCED RIVER	OCT-SEP OCT-SEP	1200	66	74	62	
POHONO BR, YOSEMITE NR, CA LAKE MC.CLURE INFLOW, CA TUOLUMNE RIVER	OCT-SEP OCT-SEP	320 600				
HETCH HETCHY NR, CA DON PEDRO RES INFLOW, CA	OCT-SEP OCT-SEP	560 1250	73 66	81 73	70 62	762 1885
MIDDLE FORK STANISLAUS RIVER SAND BAR FLAT, AVERY NR, CA	OCT-SEP	320	67	77	59	480
STANISLAUS RIVER MELONES RESERVOIR INFLOW, CA	OCT-SEP	. 700	61	70	56	1142
NORTH FORK MOKELUMNE RIVER SALT SPRINGS DAM BLO, CA	OCT-SEP	260	73	99	45	358
MOKELUMNE RIVER PARDEE RESERVOIR INFLOW, CA	OCT-SEP	470	64	73	59	735
COSUMNES RIVER MICHIGAN BAR, CA	OCT-SEP	170	47	60	38	365
		LUMBIA BASI		• •	3-	, ,
COLUMBIA RIVER BIRCHBANK, BC	APR-SEP	40900		100	ry la	h h Co o
INTERNATIONAL BOUNDARY	APR-SEP	56200	92 91	109 108	74 75	44610 61430
ROCK ISLAND DAM BLO, WA	APR-SEP APR-SEP		91 92	101 103	82 80	66840 72780
THE DALLES NR, OR KOOTENAI RIVER	APR-SEP	96900	`96	109	83	101000
LIBBY RESERVOIR INFLOW, MT LIBBY, MT	APR-SEP APR-SEP	5860 6230	83 83	103 102	64 64	7041 7503
LIBBY, MT LEONIA, ID	APR-SEP	7320	85,	104		8602

STREAM AND STATION	FORECAST		20 YEAR (1961-80) AVERAGE RUNOFF				
	PERIOD	PERIOD MOST		T PROBABLE REASONABLE MAX.REASONABLE MIN. (PERCENT OF AVG.)(PERCENT OF AVG.)(PERCENT OF AVG.)			
	COLUMBI	A BASIN -	- Continued	ALEKCEIVI OF AVE	S. ALFERCEINT OF AVG.	(1000 AF) ·	
CLARK FORK MISSOULA ABV, MT	•		* 1				
MISSOULA BLO. MT	MAY-SEP APR-SEP	1270 2710	80.	116	44	1590	
ST. REGIS, MT PLAINS NR, MT	' APR-SEP	3690	82 84	105 104	58 63	3319 4411	
WHITEHORSE RAPIDS ID	APR-SEP APR-SEP	10800 12200	89	104	74	12150	
PEND OREILLE RIVER PEND OREILLE LAKE IN, ID			90	104	75	13570	
POA CANYON RIO WA	APR-SEP APR-SEP	13800 14000	91	106	77	15150	
BLACKFOOT RIVER BONNER NR, MT	APR-SEP		91	106	76	15420	
BITTERROOT RIVER DARBY NR, MT		797	80	109	50	999	
. AT MOUTH, MT	APR-SEP APR-SEP	470	81			580	
N.F. FLATHEAD RIVER COLUMBIA FALLS NR, MT		1250	83	120	47	1504	
FLATHEAD RIVER	MAY-SEP	1520	87	116	59	1742	
COLUMBIA FALLS, MT FLATHEAD LAKE INFLOW, MT	MAY-SEP	4900	87	107			
M·F· FLATHEAD RIVER	MAY-SEP	5740	88	108	67 68	5604 6522	
WEST GLACIER NR, MT S.F. FLATHEAD RIVER	MAY-SEP	1500	88	117	59	_	
HUNGRY HORSE RES INFLOW, MT PRIEST RIVER	MAY-SEP	1810	89			1702	
PRIEST RIVER TO	ADD GED		09	110	68	2029	
KETTLE RIVER LAURIER NR, WA	APR-SEP	899	102	132	71	885	
COEUR D'ALENE RIVER	APR-SEP	1520	83	109	57	1829	
ENAVILLE, ID COEUR D'ALENE LAKE IN, ID	MAY-SEP	564	102	149			
SPURANE RIVER	MAY-SEP	2070	105	149	55 70	554 1977	
SPOKANE, WA ST JOE RIVER	MAY-SEP	2260	106	138	•		
CALDER, ID	MAY-SEP	1020	100	-	74	2137	
OKANAGAN RIVER TONASKET NR, WA			100	124	77	1019	
SIMILKAMEEN RIVER	APR-SEP	1370	83	104	68	1644	
NIGHTHAWK NR, WA METHOW RIVER	APR-SEP	1280	88	103	79	1462	
PATEROS NR, WA STEHEKIN RIVER	APR-SEP	822	84	108			
STEHEKIN. WA	APR-SEP	690	80	100	59	980	
CHELAN RIVER LAKE CHELAN INFLOW, WA	MAY-SEP	_	00			860	
WENATCHEE RIVER PESHASTIN, WA		893	82	99	65	1094	
YAKIMA RIVER	MAY-SEP	1370	90	123	56	1523	
KEECHELUS LAKE INFLOW, WA CLE ELUM, WA	MAY-SEP	108	95	106	-	·-	
PARKER NR. WA	MAY-SEP MAY-SEP	738 1620	94	106	83 83	114 781	
KACHESS RIVER KACHESS LAKE INFLOW, WA			95	114	76	1703	
JM RIVER	MAY-SEP	93	95	107	83	98	
".UM LAKE INFLOW, WA IVER	MAY-SEP	379	95	105	85	1100	
NR, WA ≀⊤v¤:R	MAY-SEP	750	102	124	_	400	
KE INFLOW, WA	MAY-SEP	126			81	733	
			99	118	80	127	
	Y-SEP	220	103	122	84	214	
		37	95	136	54	39	
		750	85	97			
HEISE NR, ID	APK-SEP MAY-SEP	3150	83	101	74 65	880 3793	
SHELLEY NR, ID BLACKFOOT NR, ID AMERICAN FALLS RES IN. TD	APR-JUL	2940 3630	79 82	99 101	59 64	3724	
AMERICAN FALLS RES IN, ID KING HILL, ID	MAY-JUL APR-JUL	3240 2390	80 78	98	62	4402 4051	
MURPHY NR, ID	APR-JUL APR-JUL	2820	101	106 129	50 86	3063	
WEISER, ID	APR-JUL	3100. 5420	107 103	140	88	2788 2893	
HELLS CANYON, ID LOWER GRANITE RES IN, WA	APR-JUL APR-JUL	5950	101	144 139	71 71	5254 5002	
GREY'S RIVER PALISADES ABV, WY		21700	98	122	77	5902 22140	
SALT RIVER	APR-SEP	300	76			393	
ETNA NR, WY HENRYS FORK	APR-SEP	311	79	95	60 .		
ASHTON NR. ID	MAY-SEP	490	80		62	394	
REXBURG NR, ID	MAY-SEP	1030	78	105 105	83 75	610	
		4 ·				1317	

STREAM AND STATION	FORECAST		20 YEAR (1961-8			
	PERIOD	MOST PRO (1000AF) (PR	OBABLE ERCENT.OF AVG.)	REASONABLE MAX. (PERCENT OF AVG.	REASONABLE MIN. (PERCENT OF AVG.)	AVERAGE RUNOFF (1000 AF)
DATE OF DEVEN	COLUMBI	A BASIN				
FALLS RIVER SQUIRREL NR, ID	APR-JUL	345	- 94	105	83	366
TETON RIVER ST. ANTHONY NR, ID	APR-SEP	428	92	103	_	_
BIG LOST RIVER MACKAY RESERVOIR INFLOW, ID	APR-SEP	129			81	465
LITTLE LOST RIVER HOWE NR, ID	APR-SEP		70	104	36	184
PORTNEUF RIVER TOPAZ, ID		38	90			42
GOOSE CREEK	MAR-SEP	94	92	92	92	102
OAKLEY RES INFLOW, ID SALMON FALLS CREEK	MAY-SEP	17	76	109	41	23
SAN JACINTO NR, NV LITTLE WOOD RIVER	MAY-SEP	45	74	133	34	61
CAREY NR, ID BIG WOOD RIVER	MAY-SEP	46	61	97	26	75 ·
HAILEY, ID MAGIC RESERVOIR INFLOW, ID	APR-SEP APR-SEP	175 268	68	110	60	258
BRUNEAU RIVER HOT SPRING NR, ID	MAY-SEP		87	129	45	307
OWYHEE RIVER GOLD CREEK NR, NV		123	70	123	20	176
OWYHEE RES INFLOW, OR BOISE RIVER	MAY-JUL MAY-JUL	27 130	113 70	175 194	63 30	11 187
TWIN SPRINGS NR, ID BOISE NR, ID	APR-JUL	557	86	102	69	650
S.F. BOISE RIVER	MAY-JUL	858	76	100	. 52	1131
ANDERSON RANCH RES IN, ID MALHEUR RIVER	APR-JUL	457	83	102	64	551
DREWSEY NR, OR N.F. MALHEUR RIVER	MAY-JUL	25	76	185	46	33
BEULAH RESERVOIR INFLOW, OR PAYETTE RIVER	MAY-JUL	27	75	136	45	36
HORSESHOE BEND NR, ID DEADWOOD RIVER	MAY-SEP	1230	82	102	61	1504
DEADWOOD RES INFLOW, ID N.F. PAYETTE RIVER	APR-JUL	120	86	103	69	140
CASCADE RES INFLOW, ID WEISER RIVER	MAY-SEP	381	82	98	65	466
WEISER NR, ID	MAY-JUL	188	71	119	24	263
BURNT RIVER HEREFORD NR, OR	APR-SEP	50	147	197	97	
POWDER RIVER _ SUMPTER NR, OR	APR-JUL	68	121	152		34
EAGLE CREEK SKULL CREEK ABV, OR	APR-SEP	208		192	91	56
IMNAHA RIVER IMNAHA, OR	MAY-SEP		113			184
SALMON RÍVER SALMON, ID		239	96 0-	129	63	249
WHITEBÍRD, ID LOSTINE RIVER	APR-JUL APR-JUL	749 5290	83 85	119 100	47 71	899 6211
LOSTINE NR, OR GRANDE RONDE RIVER	APR-SEP	114	93		•	123
LA GRANDE, OR	APR-SEP	162	100	156	44	162
TROY, OR CLEARWATER RIVER	MAR-JUL	1410	97	124	70	1454
OROFINO, ID SPALDING, ID	APR-JUL APR-JUL	4710 7760	96 97	115	77	4917
N.F. CLEARWATER RIVER DWORSHAK RES INFLOW, ID	APR-JUL	2760		115	79	8000
S.F. WALLA WALLA RIVER MILTON NR, OR	MAY-SEP		98	114	83	2805
UMATILLA RIVER		51	98	123	73	52
GIBBON NR, OR PENDLETON, OR	MAY-SEP MAY-SEP	49 77	104 100	145 156	64 44	47
JOHN DAY RIVER SERVICE CREEK, OR	APR-SEP	1000	131	159	102	77
M.F. JOHN DAY RÍVER RITTER, OR	MAY-SEP	74	100	138		764
N.F. JOHN DAY RIVER MONUMENT NR, OR	APR-SEP	720			62	74
OCHOCO CREEK OCHOCO RES INFLOW, OR	APR-SEP		134	134	134	539
CROOKED RIVER		27	152	240	65	18
PRINEVILLE RES THETOW OR		162	172	240	94	O.b
PRINEVILLE RES INFLOW, OR TUMALO CREEK	APR-SEP		-,-	2,0	24	94
PRINEVILLE RES INFLOW, OR TUMALO CREEK BEND NR, OR SQUAW CREEK SISTERS NR, OR	MAY-SEP MAY-SEP	43 46	107	122	92	40

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ARKANSAS BASIN -- Continued

Reservoir storage amounts continue well above average with 406 percent of the long-term average now in sto ige. This is about 122 percent more than last year at this time.

MISSOURI BASIN

The May I water supply forecast calls for most streams in the Missouri Basin to receive less runoff than forecast last month as a result of below average April precipitation.

The overall high elevation snowpack in the Missouri Basin is well below average for May 1. The snowpack in the South Platte Basin ranges from 70 to 90 percent of average. The North Platte Basin snowpack ranges from near 85 percent above Seminoe Dam, Wyoming, to 40 percent of average in the Sweetwater Basin. The snowpack in the Yellowstone Basin ranges from 61 percent in the Yellowstone Basin above Billings, Montana, to 38 percent of average in the Powder River Basin. Except for the Marias-Teton-Sun Basins, where the snowpack is 83 percent of average, the Missouri Basin above Fort Peck, Montana, has between 58 and 70 percent of average May 1 snowpack.

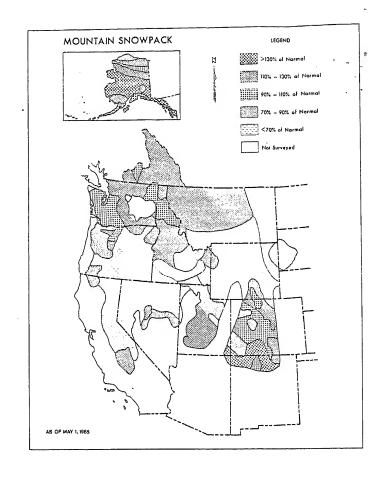
Most of the Missouri Basin received below average April precipitation. Except for the northeastern portion, Montana received below to well below average precipitation. Wyoming also received below to well below average April precipitation. The Platte Basin in Colorado received above average precipitation during April.

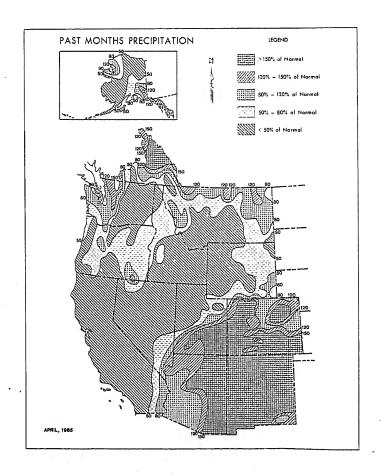
Most streams in the Missouri Basin are forecast to have below average runoff this spring and summer. Streams in the Missouri Basin above Fort Peck, Montana, can expect about 80 percent of average runoff. Streams in the Yellowstone Basin are forecast to have about 60 to 80 percent of average runoff, the Upper North Platte Basin 82 percent of average, the Lower North Platte Basin well below average runoff, and the South Platte Basin between 85 and 100 percent of average.

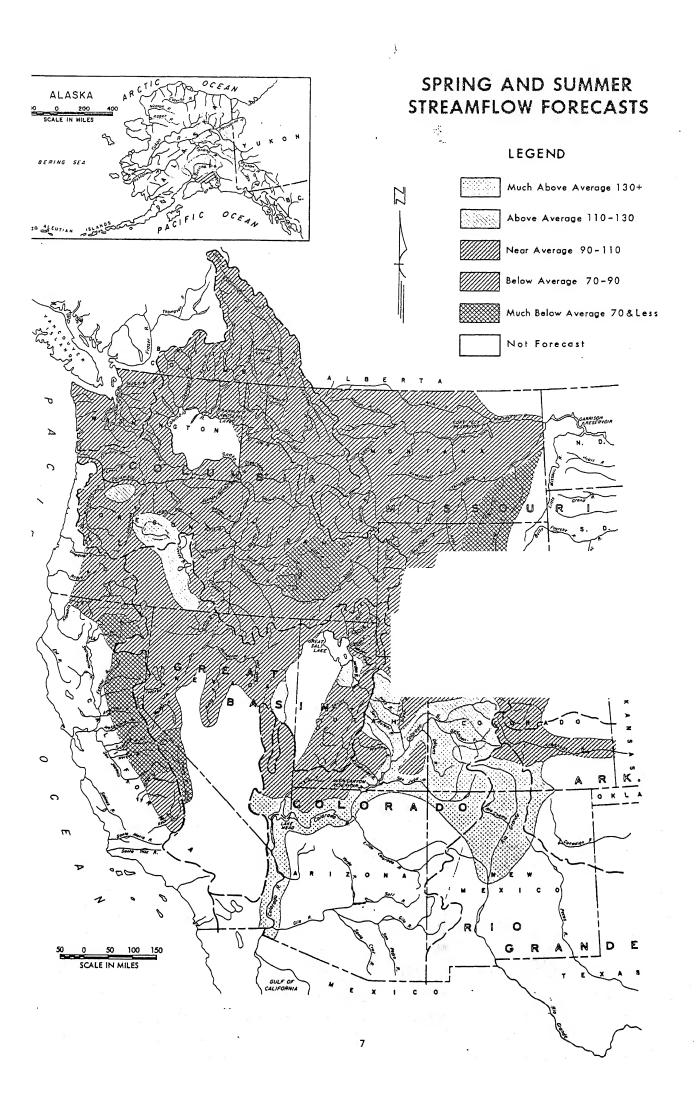
Most reservoirs in the Missouri Basin contain average or above average water for this time of the year. Reservoirs in Montana contain average storage except for Gibson, Pishkun, Willow Creek, Tongue, Sherburne, Fresno and Nelson Reservoirs which all have below average storage. Reservoir storage in Wyoming is above average in the North Platte Basin; average in the Wind, Bighorn Basin; and below average in the Bel Fourche Basin.

ALASKA

Alaska experienced the coldest April on record. Although little new moisture fell during the month, very little snow melted either. The result is almost the entire state south of the Brooks Range is covered by snow far in excess of normal amounts for this time of year. The near maximum of record snowpack in the interior a month ago is now maximum of record in a large belt across the center of the state. The National Weather Service rates this year's potential for flooding during the river ice breakup season as the highest in the last 20 years.







FORECAST PERIOD UMBIA BASIN MAY-SEP APR-SEP APR-SEP APR-SEP MAY-SEP APR-SEP APR-SEP APR-SEP APR-SEP	MOST PROF (1000AF) (PER N (Cont.) AND 105, 559 1950 55 26 110 1390	O COASTAL 131 104 104 92 124	EASONABLE MAX.R ERCENT OF AVG. (III BASINS 169 113 118	EASONABLE MIN PERCENT OF AVG.) 94 94 65	80 540 1874
MAY-SEP APR-SEP APR-SEP MAY-SEP MAY-SEP MAY-SEP APR-SEP	N (Cont.) AND 105. 559 1950 55 26 110	O COASTAL 131 104 104 92 124	169 113 118	94 94	80 540
APR-SEP APR-SEP MAY-SEP APR-SEP MAY-SEP APR-SEP	559 1950 55 26 110	104 104 92 124	113	94	540
APR-SEP MAY-SEP APR-SEP MAY-SEP APR-SEP	1950 55 26 110	104 92 124	118		
APR-SEP MAY-SEP APR-SEP	26 110	124		65	
MAY-SEP APR-SEP	110		150	0,5	60
APR-SEP		3.00	152	95	21
	1390	120	148	91	92
APR-SEP	-37-	115	115	115	1207
	655	113	113	113	578
APR-SEP	960	115	115	115	838
APR-SEP	841	110			767
APR-SEP	4740	102	102	102	4655
APR-SEP	146	91	•		160
APR-SEP	5590	83	98	69	6724
MAY-SEP MAY-SEP	1370 1750	85 85	129 134	41 36	1617 2058
APR-SEP	1170	94	118	69	1249
APR-SEP	167	107	117	97	156
MAY-SEP	663	103	133	74	642
MAR-SEP	552	113	146	80	489
APR-SEP	605	124	169	79	489
MAR-SEP	292	103	142	64	284
G	REAT BASIN				
MAY-JUL	110	105	119	94 83	105 116
MAY-JUL APR-SEP	227	73	92	56	310
APR-SEP	93	78	89	69	119
APR-SEP	26	74			35
MAY-JUL	96	95	109	82	102
MAY-JUL	37	97	132	68	38
MAY-JUN MAY-JUN	95 97	102 102	118 126	87 80	93 95
MAY-JUN	121 248	102 108	125 127	80 89	119 230
MAY-JUN	30	100	130	76	30
MAY-JUN	22	138	176	119	15.6
MAY-JUN	33	81	110	58	41
MAY-JUN	63	84	104	66	· 75
	250	151	182	120	166
MAY-JUL	99	121	140	106	82
MAY-JUL MAY-JUL	87 95	93 98	112 121	76 75	94 97
				102	28
	_				36
			122	110	33
	_				5.1
_	APR-SEP APR-SEP MAY-SEP MAY-SEP MAY-SEP MAY-SEP MAY-SEP MAR-SEP MAR-SEP MAR-SEP MAR-SEP MAR-SEP MAY-JUL MAY-JUL MAY-JUL MAY-JUL MAY-JUL MAY-JUN	APR-SEP 841 APR-SEP 4740 APR-SEP 146 APR-SEP 5590 MAY-SEP 1370 MAY-SEP 1750 APR-SEP 167 MAY-SEP 663 MAR-SEP 663 MAR-SEP 605 MAR-SEP 605 MAR-SEP 292 GREAT BASIN MAY-JUL 118 APR-SEP 93 APR-SEP 93 APR-SEP 26 MAY-JUL 37 MAY-JUL 37 MAY-JUL 37 MAY-JUL 37 MAY-JUN 95 MAY-JUN 95 MAY-JUN 97 MAY-JUN 97 MAY-JUN 248 MAY-JUN 30 MAY-JUN 30 MAY-JUN 30 MAY-JUN 33 MAY-JUN 30 MAY-JUN 33 MAY-JUN 33 MAY-JUN 33 MAY-JUN 34 MAY-JUL 99 MAY-JUL 99 MAY-JUL 99 MAY-JUL 99 MAY-JUL 32 MAY-JUL 32 MAY-JUL 32 MAY-JUL 36 MAY-JUL 31	APR-SEP 841 110 APR-SEP 4740 102 APR-SEP 146 91 APR-SEP 5590 83 MAY-SEP 1370 85 MAY-SEP 1750 85 APR-SEP 1170 94 APR-SEP 107 MAY-SEP 167 107 MAY-SEP 663 103 MAR-SEP 552 113 APR-SEP 605 124 MAR-SEP 292 103 GREAT BASIN MAY-JUL 110 105 APR-SEP 227 73 APR-SEP 227 73 APR-SEP 26 74 MAY-JUL 37 97 MAY-JUL 37 97 MAY-JUL 37 97 MAY-JUN 95 102 MAY-JUN 97 102 MAY-JUN 97 102 MAY-JUN 97 102 MAY-JUN 121 102 MAY-JUN 97 102 MAY-JUN 248 108 MAY-JUN 30 100 MAY-JUN 33 81 MAY-JUN 33 81 MAY-JUN 33 81 MAY-JUN 33 84 MAY-JUN 33 81 MAY-JUN 33 84 MAY-JUN 33 84 MAY-JUN 33 84 MAY-JUN 33 84 MAY-JUL 350 151 MAY-JUL 36 100 MAY-JUL 32 113 MAY-JUL 32 113 MAY-JUL 31 124 MAY-JUL 41 124 MAY-JUL 41 124 MAY-JUL 41 124 MAY-JUL 41 124	APR-SEP 841 110 APR-SEP 4740 102 102 APR-SEP 146 91 APR-SEP 5590 83 98 MAY-SEP 1370 85 129 MAY-SEP 1750 85 134 APR-SEP 1170 94 118 APR-SEP 167 107 117 MAY-SEP 663 103 133 MAR-SEP 552 113 146 APR-SEP 605 124 169 MAR-SEP 292 103 142 GREAT BASIN MAY-JUL 110 105 119 MAY-JUL 110 105 131 APR-SEP 227 73 92 APR-SEP 93 78 89 APR-SEP 26 74 MAY-JUL 37 97 132 MAY-JUL 37 97 132 MAY-JUN 95 102 126 MAY-JUN 95 102 126 MAY-JUN 95 102 126 MAY-JUN 121 102 125 MAY-JUN 248 108 127 MAY-JUN 30 100 130 MAY-JUN 33 81 110 MAY-JUN 33 81 110 MAY-JUN 34 163 84 104 MAY-JUN 95 98 121 MAY-JUL 96 95 98 121 MAY-JUL 97 98 121 MAY-JUN 30 100 100 MAY-JUN 33 81 110 MAY-JUN 33 81 110 MAY-JUN 34 163 84 104 MAY-JUN 95 98 121 MAY-JUL 95 98 121 MAY-JUL 36 100 108 MAY-JUL 36 100 108 MAY-JUL 36 100 108 MAY-JUL 36 100 108 MAY-JUL 41 124 133 MAY-JUL 41 124 133 MAY-JUL 41 124 133	APR-SEP 841 110 APR-SEP 4740 102 102 102 APR-SEP 146 91 APR-SEP 5590 83 98 69 MAY-SEP 1370 85 129 41 MAY-SEP 1750 85 134 36 APR-SEP 1170 94 118 69 APR-SEP 167 107 117 97 MAY-SEP 663 103 133 74 MAR-SEP 552 113 146 80 APR-SEP 605 124 169 79 MAY-SEP 292 103 142 64 GREAT BASIN MAY-JUL 110 105 119 MAY-JUL 118 102 131 83 APR-SEP 27 73 92 56 APR-SEP 26 74 MAY-JUL 96 95 109 82 MAY-JUL 96 95 109 82 MAY-JUN 95 102 118 87 MAY-JUN 95 102 118 87 MAY-JUN 95 102 126 80 MAY-JUN 95 102 126 80 MAY-JUN 121 102 125 80 MAY-JUN 30 100 130 76 MAY-JUN 33 81 110 58 MAY-JUN 99 121 140 106 MAY-JUL 99 121 140 106 MAY-JUL 99 121 140 106 MAY-JUL 95 98 121 75 MAY-JUL 32 113 127 102 MAY-JUL 35 98 MAY-JUL 36 100 108 94 MAY-JUL 36 100 108 94 MAY-JUL 31 124 133 112 MAY-JUL 41 124 133 112

2	TREAMFLOW FORECASTS						
		FORECAST			STS THIS YEAR		20 YEAR (1961-80 AVERAGE RUNOFF
	STREAM AND STATION	PERIOD	(1000AF)	T PROBABLE	REASONABLE M	MAX. REASONABLE MIN. VG. XPERCENT OF AVG.	(1000 AF)
_	*	GREAT		Continued			
	PARLEYS CREEK SALT LAKE CITY NR, UT	MAY-JUL	13.0	116	143	89	11.2
	SIX CREEKS	MAI-00D	17.0		147	0,9	
	SALT LAKE CITY NR, UT SEVIER RIVER	MAY-JUL	105	111	123	100	94
	HATCH, UT	MAY-JUL	50	121	150	100	42 22
	KINGSTON NR, UT PIUTE RESERVOIR INFLOW, UT	MAY-JUL MAY-JUL	35 46	154 138	217 204	100 78	33
	IN-SIGURD TO GUNNISON, UT	MAY-JUL	85	400	495	315	21
	GUNNISON NR, UT	MAY-JUL	100	240			42
	EAST FORK SEVIER RIVER KINGSTON NR, UT	MAY-JUL	13.0	104	168	64	12.5
	BEAVER RIVER BEAVER NR, UT COAL CREEK	MAY-JUL	23	111	145	77	21
	CEDAR CITY NR, UT HUMBOLDT RIVER	MAY-JUL	14.8	96	129	75	15.4
	PALISADE, NV	APR-JUL	235	102			230
	COMUS, NV NORTH FORK HUMBOLDT RIVER	APR-JUL	190	110			173
	HALLECK NR, NV SOUTH FORK HUMBOLDT RIVER	APR-JUL	35	100			35
	ELKO NR, NV MARTIN CREEK	APR-JUL	78	104	*		75
	PARADISE VALLEY NR, NV DONNER UND BLITZEN RIVER	APR-JUL	19	119			16
	FRENCHGLEN NR, OR CHEWAUCAN RIVER	$\mathtt{MAY-JUL}$	45	107			42
	PAISLEY NR, OR SILVIES RIVER	MAR-JUL	85	102	135	70	83
	BURNS NR, OR DEEP CREEK	APR-SEP	101	131	186	77	77
	ADEL ABV, OR LITTLE TRUCKEE RIVER	MAY-JUL	43	100			43
	BOCA ABV, CA TRUCKEE RIVER	APR-JUL	75	81			93
	LAKE TAHOE INFLOW	APR-JUL	135	70			170
	LAKE TAHOE STAGE RISE = FARAD, CA	APR-HIGH APR-JUL	1.10 225	79 84			1.39 269
	EAST CARSON RIVER GARDNERVILLE NR, NV WEST CARSON RIVER	APR-JUL	165	88			187
	WOODFORDS, CA CARSON RIVER	APR-JUL	45	85			53
	FORT CHURCHILL NR, NV CARSON CITY NR, NV	APR-JUL APR-JUL	140 150	84 82			166 182
	EAST WALKER RIVER BRIDGEPORT NR, CA	APR-AUG	55	83			66
	WEST WALKER RIVER L.WALKER BLO COLEVILLE NR, CA						
	D. WARRENC DEG COREVIEDE MIL, OR						148
	COLOBADO BINER	CC	LORADO	BASIN			
	COLORADO RIVER LAKE GRANBY INFLOW. CO	APR-SEP	219				
	LAKE GRANBY INFLOW, CO HOT SULPHUR SPRINGS, CO DOTSERO NR, CO GLENWOOD SPRINGS BLO, CO CAMEO NR, CO CAMEO NR, CO CAMEO NR, UT	APR-SEP	430	1			
	DOTSERO NR, CO	APR-SEP	1777	-			
	GLENWOOD SPRINGS BLO, CO	APR-SEP	2 2				
	CAMEO NR. CO UNADJ	APR-SEP	2				
		APR-JUL APR-JUL	5				
	FRASER RIVER		10				
	WINTER PARK NR, CO WILLIAMS FORK						
	PARSHALL NR, CO BLUE RIVER						
	DILLON RESERVOIR INFLOW, CO GREEN MOUNTAIN RES IN, CO	APR-SEP APR-SEP					
		APR-SEP					
		APR-SEP					
		APR-SEP					
	TAYLOR RIVER TAYLOR PARK RES INFLOW, CO	APR-SEP					
	GUNNISON RIVER						
•	GRAND JUNCTION NR, CO	APR-SEP APR-SEP	. 1				
	Prot III III	APR-SEP					

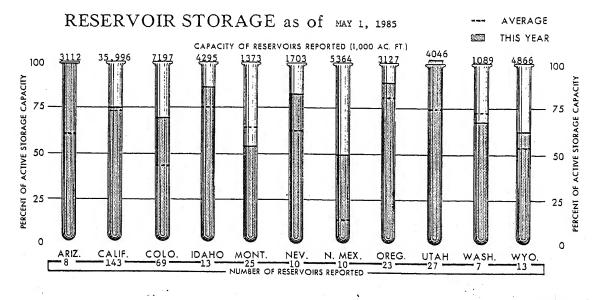
STREAMFLOW FORECASTS		20 YEAR (1961-80)				
STREAM AND STATION	FORECAST	MOST PR	ODADI E	S THIS YEAR	REASONABLE MIN.	AVERAGE RUNOFF
3182-81 6150 3.61161	PERIOD	(1000AF) (P	ERCENT OF AVG.	PERCENT OF AVG	(PERCENT OF AVG.)	(1000 %)
	COLO	RADO Cor	illinaea "			
UNCOMPAHGRE RIVER COLONA, CO	APR-SEP	170 ·	127. 136	143 151	114 121	134 129
DELTA, CO DOLORES RIVER	APR-SEP	175	•			
DOLORES, CO	APR-SEP	360	141	161	123	256
SAN MIGUEL RIVER NATURITA, CO	APR-SEP	280	167	192	147	168
GREEN RIVER WARREN BRIDGE, WY	APR-SEP	261	80 86	87 100	72 72	326 869
FONTENELLE RES INFLOW, WY GREEN RIVER, WY	APR-JUL APR-SEP	750 809	75	_	·	1079
FLAMING GORGE INFLOW, UT	APR-JUL	1100	88 108	106 127	72 89	1248 3016
GREEN RIVER, UT BIG SANDY RIVER	APR-JUL	3250		751	0)	
BIG SANDY NR, WY NEW FORK	APR-SEP	50	82			61
BIG PINEY, WY	APR-SEP	300	67	79	57	448
PINE CREEK FREMONT LAKE ABV, WY	APR-SEP	100	83	90	77	120
HENRYS FORK MANILA, UT	APR-SEP	60	125	154	103	48
YAMPA RIVER STEAMBOAT SPRINGS, CO	APR-SEP	300	106	120	91	284
HAYDEN NR, CO	APR-SEP	725	104 97	119 111	90 83	696 956
MAYBELL NR, CO ELK RIVER	APR-SEP	925			•	
CLARK, CO LITTLE SNAKE RIVER	APR-SEP	195	94	106	83	207
DIXON NR, WY LILY NR, CO	APR-SEP APR-SEP	294 328	92 92	110	76	320 357
ASHLEY CREEK		60	121	140	105	49
VERNAL NR, UT ROCK CREEK	MAY-JUL					
MOUNTAIN HOME NR, UT WEST FORK DUCHESNE RIVER	MAY-JUL	94	106	121	94	89
HANNA, UT DUCHESNE RIVER	MAY-JUL	27	113	130	102	24
TABIONA NR, UT	MAY-JUL	100	105	117	93	95 175
DUCHESNE, UT ABV KNIGHT DIV MYTON, UT	MAY-JUL MAY-JUL	185 242	106 131	120 157	93 101	185
RANDLÉTT, UT STRAWBERRY RIVER	MAY-JUL	314	135			233
STRAWBERRY RES INF, UT	MAY-JUL	55	129	148	110	43
DUCHESNE, UT STARVATION RES INFLOW, UT	MAY-JUL MAY-JUL	58 58	121 122	151	97	48 48
LAKE FORK MOON LAKE RES INFLOW, UT	MAY-JUL	74	110	126	95	67
WHITE RIVER		·			0 -	
MEEKER NR, CO WATSON NR, UT	APR-SEP APR-SEP	289 450	95 140	108 154	83 127	304 322
UINTA RIVER NEOLA NR, UT	MAY-JUL	97	119			81
WHITEROCKS RIVER WHITEROCKS NR, UT	MAY-JUL	66	119			
PRICE RIVER		_	-			56
SCOFIELD RES INFLOW, UT COTTONWOOD CREEK	MAY-JUL	40	120	138	108	33
ORANGEVILLE NR, UT HUNTINGTON CREEK	MAY-JUL	57	132			43
HUNTINGTON NR, UT SAN JUAN RIVER	MAY-JUL	60	136	152	122	44
PAGOSA SPRINGS, CO NAVAJO RESERVOIR INFLOW, NM	APR-SEP	315	143	158	131	220
FARMINGTON, NM	APR-JUL APR-SEP	1300 1850	178 168	207 196	155 146	729
BLUFF NR, UT PIEDRA RIVER	APR-JUL	1750	176	207	151	1100 995
ARBOLES NR, CO NAVAJO RIVER	APR-SEP	340	151	165	139	225
EDITH, CO	APR-SEP	100	189	215	168	53
LOS PINOS RIVER VALLECITO RES INFLOW, CO	APR-SEP	300	137	151	127	
ANIMAS RIVER DURANGO, CO	APR-SEP	650		_		219
FLORIDA RÍVER BONDAD NR, CO			142	160	127	458
LA PLATA RIVER	APR-SEP	50	134	153	121	37
HESPERUS, CO LITTLE COLORADO RIVER	APR-SEP	35	133	156	122	26
LYMAN ABV, AZ WOODRUFF, AZ				0		
•	•				7	

STREAM AND STATION	FORECAST		20 YEAR (1961-80			
JINDAN AND STATION	PERIOD	(1000AF)	T PROBABLE (PERCENT OF AVC	REASONABLE MAS.) (PERCENT OF AV	AX. REASONABLE MIN. G. ((PERCENT OF AVG.)	AVERAGE RUNOFF (1000 AF)
	COLO	RADO C	ontinued			
CHEVELON CREEK WINSLOW NR, AZ CLEAR CREEK WINSLOW NR, AZ	٠ ,	•	· · · · · · · · · · · · · · · · · · ·			
VIRGIN RIVER HURRICANE, UT GILA RIVER GILA NR, NM	MAY-JUN	. 40	133	193	90	30
VIRDEN NR, NM SOLOMON NR, AZ CALVA, AZ SAN FRANCISCO RIVER GLENWOOD NR, NM						
CLIFTON, AZ SALT RIVER SALT AT INTAKE, AZ ROOSEVELT NR, AZ						
TONTO CREEK ROOSEVELT NR, AZ VERDE RIVER HORSESHOE DAM ABV, AZ						
	RIC	GRANDE	BASIN			
RIO GRANDE		_				
THIRTY MILE BRIDGE, CO WAGON WHEEL GAP, CO DEL NORTE NR, CO OTOWI BRIDGE, NM	APR-SEP APR-SEP APR-SEP MAR-JUL	189 435 745 1025	150 140 151 171	175 174 184 250	105 105 105 100	126 310 494 600
SAN MARCIAL, NM SOUTH FORK RIO GRANDE SOUTH FORK, CO	MAR-JUL	820	195	. 302	100	420
SAGUACHE CREEK SAGUACHE NR, CO	APR-SEP APR-SEP	200	157	181	114	127
ALAMOSA CREEK TERRACE RESERVOIR INFLOW, CO	APR-SEP	32 102	107	167	67	30
CONEJOS RIVER MOGOTE NR, CO	APR-SEP	302	155	182	121	66
CULEBRA CREÉK SAN LUIS, CO	APR-SEP	29	155 161	185	113	195
COSTILLA CREEK COSTILLA NR, NM	MAR-JUL	30	160	322	72	18
RED RIVER AT MOUTH, QUESTA NR, NM	MAR-JUL	33	110	310 200	79 83	19
RIO HONDO VALDEZ NR, NM	MAR-JUL	20	133	253	73	30
RIO PUEBLO DE TAOS LOS CORDOVAS BLO, NM	MAR-JUL	45	167	252	85	
RIO CHAMA EL VADO RES INFLOW, NM CHAMITA NR, NM	MAR-JUL MAR-JUL	320 435	154 164		• • • • • • • • • • • • • • • • • • • •	
RIO OJO CALIENTE LA MADERA, NM	MAR-JUL	62	172			
SANTA CRUZ RIVER CUNDIYO, NM	MAR-JUL	25	-,-			
JEMEZ RIVER JEMEZ NR, NM PECOS RIVER	MAR-JUL					
PECOS NR, NM ANTON CHICO NR, NM GALLINAS CREEK	MAR-JUL MAR-JUL	1				
MONTEZUMA NR, NM	MAR-JUL					
ARKANSAS RIVER	. AF	RKANSA				
GRANITE, CO	APR-SEP	1				
SALIDA, CO CANON CITY PUEBLO ABV, CO GRAPE CREEK	APR-SEP APR-SEP APR-SEP	3 3 3				
WESTCLIFFE NR, CO HUERFANO RIVER	APR-SEP					
REDWING NR, CO CUCHARAS RIVER	APR-SEP					
BOYD RANCH, LA VETA NR, CO PURGATOIRE RIVER	APR-SEP					
TRINIDAD, CO	APR-SEP					

STREAM AND STATION	FORECAST					20 YEAR (1961-80)
SINGAM AND STATION	PERIOD	MOST PRO (1000AF) (PE	BABLE RCENT OF AVG.)	REASONABLE MAX. (PERCENT OF AVG.	REASONABLE MIN (PERCENT OF AVG	AVERAGE RUNOFF (1000 AF)
DED DOOK DIVED	MIS	SSOURI BASI				
RED ROCK RIVER MONIDA NR, MT BEAVERHEAD RIVER	MAY-SEP	64.5	80.			80.7
GRANT, MT BARRETTS, MT	MAY-SEP MAY-SEP	97.0 130	81 80			120 162
BIG HOLE RIVER MELROSE NR, MT RUBY RIVER	MAY-SEP	525	78			674
ALDER NR, MT MADISON RIVER	MAY-SEP	70.0	76			91.6
GRAYLING NR, MT MCALLISTER NR, MT GALLATIN RIVER	MAY-SEP MAY-SEP	370 620	84 83			440 743
GALLATIN GATEWAY NR, MT LOGAN, MT MISSOURI RIVER	MAY-SEP MAY-SEP	400 385	78 71			514 541
TOSTON, MT FORT BENTON, MT VIRGELLE, MT	MAY-SEP MAY-SEP MAY-SEP	1782 2800 3190	81 81 81			2200 3440 3960
LANDUSKY NR, MT FORT PECK DAM BLO, MT LAKE SAKAKAWEA INFLOW, ND	MAY-SEP MAY-SEP MAY-SEP	3580 3495 8360	83 82 77			4300 4245
LITTLE MISSOURI RIVER WATFORD CITY NR, ND	FEB-SEP	275	60	91	39	10855 459
SHEEP CREEK WHITE SULPHUR SPRINGS, MT SUN RIVER	MAY-SEP	17.2	85			20.2
GIBSON RES INFLOW, MT BELT RIVER	MAY-SEP	470	87			538
MONARCH NR, MT MARIAS RIVER	MAY-SEP	100	. 79			126
SHELBY NR, MT MUSSELSHELL RIVER HARLOWTON, MT	MAY-SEP MAY-SEP	375 67.3	79	120	le le	473
MILK RIVER WESTERN CROSSING, MT	MAR-SEP	32.8	80 60	139 101	44 45	84.1 54.7
MILK RIVER, ALBERTA EASTERN CROSSING YELLOWSTONE RIVER	MAR-SEP MAY-SEP	44.8 27.7	55 50	108 111	37 33	81.4 55.4
SPRINGS, MT TON NR, MT TO MR, MT TMT	APR-SEP MAY-SEP MAY-SEP MAY-SEP MAY-SEP	675 1600 1800 3217 4585	82 82 79 76 73			825 1944 2269 4225 6273
Ť	MAY-SEP	4960	_ 72			6921
ſT	MAY-SEP MAY-SEP	295 461	77 76			385
OWSTONE R	MAY-SEP	455	75			606 606
		85.0 890	80 . 77			106 1163
		925 1390	76 76			1225 1833
		150	70			214
		53.9	69			77•9
		600	71			844
		94.2	60	100	24	157
		38.0 155	71 64	121	28	123 244
		25.0	62			40.2
		7.0	66	120	26	10.6
		154 185	66 67	138 144	26 23	233 277
		225 583 653 680	86 82 67 68		: ·	262 710 973 1001

STREAMFLOW FORECASTS

STREAM AND STATION	FORECAST		20 YEAR (1961-80) AVERAGE RUMOFF			
TAXAM AND STATION	PERIOD	(1000AF) (PE	DBABLE ERCENT OF AVG. 1	REASONABLE MAX. (PERCENT OF AVG.)	REASONABLE MIN. (PERCENT OF AVG.)	(1000 AF) .
<u>.</u>	MISSOU	RI BASIN (,
SWEETWATER RIVER		•				
ALCOVA, WY LARAMIE RIVER	APR-SEP	33.2	45	69	28	73.7
WOODS, WY	APR-SEP	110	83			122
SOUTH PLATTE RIVER	521	110	O.J			132
LAKE GEORGE NR, CO	APR-SEP	45.4	99	169	61	45.9
CHEESMAN LAKE BLO, CO SOUTH PLATTE, CO	APR-SEP	94.1	99 -	176	57	95.1
NORTH FORK SOUTH PLATTE R	APR-SEP	197	100	159	67	197
SOUTH PLATTE, CO BEAR CREEK	APR-SEP	80.4	105	144	82	76.6
MORRISON, CO CLEAR CREEK	APR-SEP	25.8	90			28.7
GOLDEN NR, CO	APR-SEP	106	83			127
ST. VRAIN CREEK			٠,			141
LYONS, CO MIDDLE BOULDER CREEK	APR-SEP	55.0	70			78.8
NEDERLAND, CO	. APR-SEP	30 0	0.0	100		
SOUTH BOULDER CREEK	· AFK-OLF	30.0	82	108	71	36.5
ELDORADO SPRINGS NR, CO BIG THOMPSON RIVER	APR-SEP	36.1	86	131	73	42.1
ESTES PARK, CO	APR-SEP	66.3	85	110	79	78.0
DRAKE, CO	APR-SEP	97.0	85	210	1 3	114
CACHE LA POUDRE RIVER FT. COLLINS NR, CO	APR-SEP	230	86			268
	2121	ATCHEWAN	D A CINI			200
ST. MARY RIVER			DASIN			
BABB NR, MT	MAY-SEP	432	93			465
YUKON RIVER		ALASKA				
EAGLE, AK	APR-JUL	44960	126			25500
STEVENS VILLAGE, AK	APR-JUL	57800	120			35790 48330
SALCHA RIVER						40330
SALCHAKET NR, AK CHENA RIVER	APR-JUL	880	124			708
FAIRBANKS, AK	APR-JUL	· 650	121	•		
LITTLE CHENA RIVER	AT II - U U L	0,0	121			535
FAIRBANKS, AK	APR-JUL	101	125			81
SHIP CREEK ANCHORAGE NR, AK	4 D.D. 7777	<i>C</i> 1:				
N.F. CAMPBELL CREEK	APR-JUL	64	103			62
ANCHORAGE NR, AK	APR-JUL	4.6	96			4.8
ANCHOR RIVER	.0.		, ,			7.0
ANCHOR POINT NR, AK LITTLE SUSITNA RIVER	APR-JUL	75.5	93			81
PALMER NR. AK	APR-JUL	114	124			
SUSITNA RIVÉR	117 11-0 0 11	114	144			92
GOLD CREEK, AK	APR-SEP	6627	112			5919
TERROR RESERVOIR INFLOW KODIAK ISLAND, AK	MAY OFF	h.c	0 -			27-7
MODIAN IBLAND, AN	MAY-SEP	45.2	80			56.5



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201 E. Indianola, Suite 200, Phoenix, AZ 85012
2490 W. 26th Ave., Bldg. A, 3rd Floor, Denver, CO 80211 (Includes New Mexico)
Room 345, 304 N. 8th St., Boise, ID 83702
10 E. Babcock, Room 443, Fed. Bldg., Bozeman, MT 59715
50 South Virginia St., Reno, NV 89505
1220 S.W. Third Ave., Portland, OR 97204
4420 Fed. Bldg., 125 So. State ST., Salt Lake City, UT 84138
360 U.S. Courthouse, Spokane, WA 99201
100 E. "B" St., Casper, WY 82601

NATIONAL WEATHER SERVICE -

River Forecast Center Offices
Fed. Bldg. & Courthouse, 701 C St., Box 23, Anchorage, AK 99513
819 Taylor St., Rm. 10A02, Fort Worth, TX 76102
Rm. 1715A, 601 E. 12th St., Kansas City, MO 64106
121 Customhouse, Portland, OR 97209
1641 Resources Building, 1416 - 9th St., Sacramento, CA 95814
337 No. 2730 West, Executive Terminal Bldg., Salt Lake City, UT 84116
Room 201, General Aviation Bldg, International Airport, Tulsa, 0K 74115